SCIENCE & GOVERNMENT REPORT

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Is Industry a New Frontier for Science PhD's?

Academe's flat job market and industry's sagging rate of innovation have led Washington R&D planners to the comfortable thought that if industry would hire more science and engineering PhDs, job opportunities would expand and innovation would be assisted.

The idea is relatively straightforward and plausible, and, in fact, White House Science Adviser Frank Press and National Science Foundation Director Richard Atkinson are working up plans to encourage the channeling of more PhD's toward industry (SGR Vol. VIII, No. 4).

However, what has to be asked at this point is whether American industry wants more PhD's in its ranks. And, on this score, a newly issued report by NSF indicates that, while the market has been up in recent years, it is far from booming; furthermore, the available evidence does not suggest that industry is yearning for a gusher of PhD applicants.

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The NSF study, "Utilization of Science and Engineering Doctorates in Industrial Research and Development," is a once-over-lightly examination of the subject, based on 66 responses to questionnaires sent to 98 R&D directors associated with NSF's Industrial Panel on Science and Technology. The report cautions that though the panel "covers a wide range of firms and corporations, many of which are among the largest private businesses in the United States," it "does not represent a statistically valid sample of all industrial employers of scientists and engineers engaged in research and development."

Nevertheless, the report is the best that's now available on the subject; so, with the limitations understood, what are the important findings?

Forty-seven per cent of the R&D directors reported that between 1970 and 1977, their firms increased the proportion of new employees who have PhD's. However, looking ahead to 1982-1987, admittedly a murky business, only 30 per cent expected a further increase in the proportion of such hirings.

Meanwhile, 53 per cent of the respondents said that in the 1970-77 period, their firms did not boost the proportion of new employees with doctorates, and in forecasting the 1982-87 situation, 67 per cent said they did not expect a proportional increase. Three per cent foresaw a decline.

Now, as NSF points out, industry added nearly 6000 new PhD's to its R&D payroll between 1973 and 1976, a period in which overall industrial R&D employment was stable. So, there is a trend toward increased PhD employment, though that 1973-76 gain is relatively slight in view of the fact that total industrial employment of R&D scientists and engineers, of all degree levels, is around 360,000, and some 12,000 science and engineering PhD's are now awarded annually. Industry, quite obviously, is not soaking up any great proportion of the output, nor is it flooding its research ranks with holders of elevated degrees.

But to the extent that it is hiring more PhD's, why is it doing so?

The answers provided to NSF suggested three main reasons: increasingly complex work, greater interest in

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In Brief

The American Association for the Advancement of Science is seriously looking into starting a monthly magazine as a stablemate for its weekly, *Science*. At its April meeting, the AAAS Board voted $10,000 for a preliminary study of the venture, which was proposed by Allen L. Hammond, head of the *Science* research news section. Described by Hammond as "a magazine of science for an educated audience," the proposed journal will be reviewed by the Board for a go or no-go decision next October.

Meanwhile, Robert Guccione, of Penthouse *fame, is starting a monthly,* Nova, *which is described as a "magazine of science and science fiction." Publication is scheduled to start in October. Guccione is said to be backing the magazine with several million dollars.*

The post-Vietnam dropoff in university-based language and foreign-area studies has at last attracted high-level government attention, following years of complaints. The overall subject is to be examined by a newly created President's Commission on Foreign Language and International Studies, created recently through an Executive Order. The Commission, which is yet to be appointed, is to report within six months of its first meeting.

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industrial jobs on the part of the PhD's themselves, and — perhaps most important — the fact that an advanced-degree holder doesn't cost much more than someone with a lesser degree. Or, as one respondent told NSF, "The salary difference between a BA and a PhD chemist is only $5000-$10,000 a year. This difference is only 10-15 per cent of the total cost [of conducting research]. So why not get a Cadillac instead of a Chevy — providing you can effectively utilize a Cadillac."

Along these lines, another R&D manager is quoted as saying, "We have in this period received a large number of unsolicited resumes from PhD's who have, for various reasons, been on the market. Interestingly, the requested salaries of these candidates were not substantially different from salaries required to attract technical people with BS and MS degrees."

Indications of a shift in attitudes among PhD job applicants was reported by another research director, who said:

"Prior to the recent recession affecting technical personnel, PhD's were not oriented toward applied or practical research. They were primarily oriented toward basic or fundamental research as sponsored by NASA and other government agencies. The problem of nonindustrial orientation of PhD's was compounded because this type of work was also funded at the universities where a generation of professors exists, almost none of whom have practical working experience and who have spent their entire life in and around universities with no appreciation of industrial research and development.

"Unfortunately, they trained students in their image and it was not unusual for these graduates to feel that anything that had a practical solution or a realistic time frame was not research.

"The recent recession in technical personnel has changed some of these misconceptions," the director concluded, "and PhD's who have had an unhappy five or six years experience are now much more realistic in their outlook and objectives."

From the perspective of expanding PhD job opportunities, perhaps the most encouraging view was by a research director who expressed the opinion that the PhD's are more versatile. "We often find BA chemists with specific areas of expertise who would be as good or better than any PhD's," this respondent told NSF. "However, our programs don't last forever. Sooner or later they would have to work in an area unfamiliar to them. Furthermore, our PhD chemists have a much greater potential in R&D management where their advanced training enables them to cope with a large number of different chemical enterprises."

The NSF report is skimpy on the crucial question of whether newly minted PhD's mesh well with industry, but the few comments that are offered suggest the durability of longstanding notions about over-qualification and lack of interest in down-to-earth industrial research problems.

Thus, in a paraphrase of some of the responses it received, NSF states that "Some PhD's believe their training entitles them to more privileges and attention than are accorded to other staff. If they do not receive these special considerations, they complain of being underutilized."

One research director is quoted as stating that "some highly trained people are not comfortable working outside their particular area of interest, and yet seem willing to accept a less than appropriate assignment as opposed to actively seeking a job change."

And still another told NSF: "Without question, many PhD's are underutilized (or overeducated)... The primary cause in the long run has been the extreme emphasis in academic science on research as the primary purpose for obtaining a science degree and the PhD as the 'union card' for doing research. The situation in engineering is very different and probably fits the needs of industry better."

Finally, a research director is quoted as follows: "We agree that PhD's engaged in industrial research are somewhat underutilized and anticipate that the situation will worsen in the future . . . we attribute this to . . . the fact that organizations like ours have less intellectually challenging work than our core of PhD's

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US Slips as Leader in Industrial Research

The US remains the giant of industrial R&D performers in the 24-nation Organization for Economic Cooperation and Development (OECD). But its lead has declined from 62 per cent of the total in 1967 to 49 per cent in 1975. During the same period, its share of R&D manpower dropped from 49 per cent to 42 per cent of the total.

According to figures compiled by the OECD's Directorate of Science, Technology and Industry, in 1975 business enterprises in the OECD nations spent $47.5 billion on R&D and employed the full-time equivalent of over 1.7 million people. Between 1973 and 1975 spending rose by 3 per cent in real terms.

The country with the largest growth in industrial R&D was Japan, which increased its share of the OECD total from 6 per cent in 1967 to 12 per cent in 1975.

Electrical and electronic research was the largest single sector, taking one out of four dollars spent on industrial R&D in the OECD. Aerospace came next, but in this sector a few countries dominated the scene. The US, for example, accounted for three quarters of the OECD's aerospace R&D. The US, France, and the UK accounted for over 90 per cent of the OECD total for aerospace R&D — add West Germany to this and the share rises to some 97 per cent.

In constant terms, spending on aerospace R&D in the US and the UK fell between 1973 and 1975 because of a reduction in government spending in this sector.

Industrial R&D in the chemical sector took just under 20 per cent of all OECD industrial R&D funds in 1975. The US chemical industry undertook a third of the OECD total, slightly less than the Common Market countries. Japan performed about half as much chemistry R&D as the US. Within the Common Market, West Germany was the major chemical R&D country. Its activity compared with that of Japan and was about twice that of France and the UK. Most of the chemical sector R&D was privately financed.

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would like."

And, in these bits and pieces of data, what is seen by the analysts in NSF's Supply and Education Analysis Group, which prepared the study?

In a cautiously worded conclusion, the report asks, "Will industry continue to increase the proportion of its R&D staff who have doctorates?"

The answer: "It probably will, because the two factors most responsible for the increased role of the PhD up till now are likely to persist for the next five to ten years. These two factors are the growing complexity of industrial technology and the fairly ready availability of new PhD's. An ample supply of doctorate scientists and engineers in most fields should be available to industry. Not all companies engaged in research and development, however, seem prepared to accept larger proportions of PhD's among their hires, either out of a conviction that lesser trained and cheaper staff can perform as well in some jobs or because of a belief that PhD's are not well suited by virtue of their training to work in a profit-oriented enterprise.

"On the other hand, if there is a further decline in the salary differential earned by PhD's in relation to baccalaureate and master's graduates, probably some of those firms not now planning to accelerate PhD hiring will do so.

"Greater numbers of doctorates on R&D staffs may lead to their underutilization in those companies which do not also employ adequate numbers of support staff.

"This, however, should be a problem of management in individual firms rather than an industry-wide difficulty. The expected growing complexity of technology should fully engage the skills of most PhD's employed in industrial research and development," says the NSF report.

As a followup to this study, it would be interesting to hear of the experiences of PhD's recently hired by industry. Their state of happiness on the job might not seem to be a crucial matter to Washington policymakers. But if they are miserable, or perceived as such, industrial research managers will take note, and the effect will ultimately be felt by the next crop of jobseekers.

In addition, if the traditional PhD training is inappropriate for the industrial marketplace, it would be desirable to get this out into the open before Washington cooks up a great program to send more PhD's into industrial labs. Here and there throughout academe, it is being realized that the needs of industry are not always clearly reflected in PhD programs, and changes are being made.

But if the quotes offered by NSF in its report are representative, there is still a serious mismatch between what the universities produce and industry feels it needs. —DSG

(The report, NSF 78-301, is available without charge from the Division of Science Resources Studies, National Science Foundation, 1800 G St. NW., Washington, DC 20550).

Academy Head Praises Carter's Science Aides

Praise for the Carter Administration is so scarce at present that when it occurs the event is newsworthy if only for its rarity. So, let it be recorded that Philip Handler, president of the National Academy of Sciences, has surveyed "the affairs of science in Washington," and has concluded that "There are reasons for satisfaction."

This does not mean that Handler finds no reasons for dissatisfaction; he does, indeed, find several. But in his annual report to the Academy membership, April 25, Handler is unusually upbeat, and since he occupies a good vantage point for watching the science and government scene in the capital, let's hear him out.

Noting that research keeps moving into ever-more-expensive types of activity, Handler observes that the Washington end of the science economy is therefore crucial to the well-being of the community, and, in that respect, he finds grounds for cheer.

"This Administration's team of leaders of the government's science and technology programs is now in place," he states. "And a competent team it is."

Going down the list of Carter appointees in R&D affairs, Handler doles out laurels. White House Science Adviser Frank Press is described as "a front rank scientist of great good judgment (who) continues to enjoy a comfortable rapport with the President and with the major figures of the Executive Office." The only suggestion of fault relates to an organizational matter. "Although he lacks a PSAC (President's Science Advisory Committee)," Handler says of Press, "he draws assistance from a series of well constituted *ad hoc* panels."

Continuing down the roster, Handler says that "Bob Perry is well qualified to direct R&D in the Department of Defense," which may or may not be the case — but it's William Perry who holds the job.

At the National Institutes of Health, Director Donald Fredrickson and Deputy Director for Science Hans Stetten are, in Handler's opinion, "tried and true"; meanwhile at the National Science Foundation, Director Richard Atkinson and Deputy George Pimentel "more than amply warrant our trust at the helm of NSF." And John Deutsch, chief of research for the Department of Energy "is an excellent scientist of good scientific taste and judgment."

Handler points out that "It is no secret that I was disturbed" when the Administration accepted the resignation of Robert White, the scientist who headed the National Oceanic and Atmospheric Administration; and that he was "doubly so" disturbed when a *lawyer* succeeded White, and that he was "even further disturbed" when *another* lawyer became deputy director.

"However," Handler assured the Academy members, "I subsided when informed that three of the scientists whom we had recommended for the Deputy's job had been approached and had declined."

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Chinese Stress Oceanography in US Exchange Program

Oceanography is getting an unusual amount of attention in the otherwise low-keyed program of scientific exchanges between the US and the People's Republic of China.

According to the Committee on Scholarly Communication with the PRC (CSCPRC) — the consortium that runs the US side of the exchanges — two Chinese delegations have been looking into US marines sciences and related matters. On April 26, a 12-member PRC Marine Science Delegation arrived for a four-week visit that will include major oceanographic research facilities on the east and west coasts. Earlier, and apart from the carefully matched exchanges that CSCPRC administers in tandem with the Scientific and Technical Association of the PRC, the Chinese sent a team of oceanographers to the US to look into acquiring equipment for the PRC oceanographic fleet. That visit was handled at this end by the National Council on US-China Trade, with an assist from the CSCPRC. The two visits here, plus a visit to China next October by US oceanographers, are said by the CSCPRC to "reflect the importance assigned to the marine sciences in China's current ambitious plans for scientific and economic development."

The US-PRC exchange program for this year also calls for American visits to China in the fields of pure and applied chemistry, rural health systems, earthquake engineering and hazards reduction, engineering education, and Han Dynasty Culture. Delegations from China will be concerned with nuclear and plasma physics, light construction materials, fertilizer development centers and the animal feed industry, and science and technology administration.

The CSCPRC is a joint undertaking of the American Council of Learned Societies, the Social Science Research Council and the National Academy of Sciences. Address: CSCPRC, National Academy of Sciences, 2101 Constitution Ave. NW., Washington, DC 20418.

. . . Handler Warns of Pressures on Research

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In any case, even allowing for the shift at NOAA, Handler credits the Carter Administration with bringing in to the science-related jobs "an excellent first-line team, and the scientific community as well as the nation should be pleased."

Turning to the matter of money for basic research, Handler says that in terms of purchasing power, the eight-year period from 1967 brought a 20 per cent decline, but, he adds, "It is gratifying to note that this trend is being reversed by the present Administration." For this, he added, the Defense merits appreciation for its increased contributions to basic research, and he cautiously offered a bit of news — perhaps premature — when he said that "I am pleased that a step will be taken to begin to rebuild the broken bridges between the Department and the nation's scientific community." (See box).

But Handler also observed, and he's right, that as funds for research increase, particularly in NSF and NIH, there is "danger that the budgets or programs of these agencies will come to seem attractive as instruments for catalysis of social change, or for sending signals to selected political constituencies. We should not be surprised," he said, "if, in the future, such attempts may be made."

NSF, he insisted, exists to support science, and NIH is there to support research that will enhance efforts to improve health. "Other considerations should not distort or handicap the achievement of those objectives," he said — which adds up to a good dose of scientific purism that is out of touch with such desirable goals as increased science-career opportunities for women and minority-group members and the development of closer links between research and socially desirable applications. Science for the sake of science went out of fashion in Washington at least a decade ago.

And then, alluding to recent efforts to regulate recombinant DNA research, Handler predicted that "we are certain soon to witness attempts to regulate research in reproductive biology because of the asserted risk of equally imagined, but thus far, totally undocumented success of the research itself. And that quarrel may be even more bitter than that concerning recombinant DNA. Be on guard," he said.

As for recommendations that the federal government provide financial support for research in industrial laboratories, Handler expressed serious reservations, though he acknowledged that "Only a handful of industrial laboratories continue" to perform basic research.

"But, for the nonce," he said, I consider support of basic research in industrial laboratories to be an inappropriate course for the government."

The Academy President then took up a favorite theme of his — government regulatory activities, which here, as in the past, he described as well-intentioned but often misguided. "What is troublesome is the sum of these regulations," he said. "They begin to increase the costs to American consumers of a great many products while becoming a damper on innovation by encouraging defensive rather than innovative R&D and by generating a climate of uncertainty in industry. The academic world has been relatively little affected to date. But that time may not be long off," he warned, as he launched into a discussion of the laboratory problems that might ensue if the government restricts the use of certain suspected carcinogens that are commonly used in research. "Work in the laboratory would become mechanically awkward and the costs of such work would surely increase to some extent." That it would also become safer merited no comment.

Finally, Handler noted the Academy's past expressions of concern over Soviet mistreatment of dissident scientists. In the absence of "the minor civility of a reply to the queries addressed" to the Soviets, he said, "I consider that we would be ill-advised to respond affirmatively to proposals for an increase beyond the current level of [Soviet-American scientific] exchange activity."

So, there you have it — a view of the Washington scene by the President of the National Academy of Sciences.

DoD Pushes Academic Ties

NAS President Handler's reference to repairs for "the broken bridges between the [Defense] Department and the nation's scientific community" stems from a quest for a modest increase in DoD funds for academic basic research.

At present, it's estimated that DoD provides about $120 million for this purpose, a big drop from the sums that were spent before the Mansfield Amendment barred DoD-supported academic research not directly related to military purposes. The amendment is no longer in force, but its spirit lives on.

For the coming fiscal year, DoD is asking Congress to increase academic science funds by $9 million — equally divided among the three services. And next year, the plan is to ask for $20 million. The Congressional response looks favorable, but is not yet final.

Another Round on Why Nixon Axed OST

White House science advisers do often gripe fiercely about each other in private. But custom in that elevated echelon calls for keeping personal differences out of public view. A rare exception, however, is to be found in a forthcoming book by one of the eminences of presidential science advice, James R. Killian Jr., who's been in and out of the advisory circuit for many years.

Killian, who was summoned by Eisenhower from the presidency of MIT in 1957 to soothe post-Sputnik anxieties as the first full-time presidential science adviser, parts with the sweetness tradition in his book, "Sputnik, Scientists and Eisenhower: A Memoir of the First Special Assistant to the President for Science and Technology." (MIT Press, 315 pages, $14.95).

Addressing himself to the question of why Nixon, in 1973, abolished what had evolved into the Office of Science and Technology, Killian harshly concludes that a scientist associated with OST — whom he doesn't name — committed an act that Nixon justifiably interpreted as disloyal to his administration. And this, in Killian's view, demolished political confidence in OST and its ancillary organization, the President's Science Advisory Committee (PSAC).

Killian's analysis, contained in a footnote, is as follows:

"During the Nixon Administration, a PSAC panel submitted a report critical of the SST. Later, relations with the Nixon White House were damaged beyond

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Science Hurting? Humanities Are Worse Off

The National Research Council has completed its third biennial survey of employment of doctoral degree holders in the US — including, for the first time, the humanities — and finds that the humanists are having a more difficult time than their colleagues in the sciences.

Says the NRC: "The new figures for the PhD humanists indicate, in general, that the humanists experience higher unemployment rates, receive smaller salaries, and more often are employed outside their field of study than their science and engineering counterparts."

Some major findings:

• "The total population of PhD scientists and engineers in the US in 1977 who had received their degrees between January 1934 and July 1976 was estimated to be 295,800 of whom 280,000 were in the labor force. The equivalent figures for the humanities were 79,200 in the population and 73,000 in the labor force."

• Only 10 per cent of the doctoral scientists and engineers were women, compared with 22 per cent of the humanities PhD's."

• "Members of racial minority groups numbered 19,000 and accounted for six per cent of the total population of doctorate recipients in science and engineering, and 2500, or three per cent, of the humanities doctoral population."

(Copies of the report, "Science, Engineering, and Humanities Doctorates in the US," are available without charge from: Commission on Human Resources, National Research Council, 2101 Constitution Ave. NW., Washington, DC 20418).

Labor Force of Doctorate Recipients, 1977

Field of Doctorate	Labor Force	% Women	% Minorities
Math and Computer	16,671	6.9	6.3
Physics	25,355	2.5	6.0
Chemistry	41,667	6.1	6.7
Earth Sciences	9,198	3.6	3.8
Engineering	43,072	0.5	12.5
Life Sciences			
Agricultural	12,924	2.0	6.0
Medical	7,647	13.3	9.2
Biological	49,533	15.6	6.2
Psychology	32,636	23.1	2.8
Social Sciences	41,519	14.0	5.2
History	16,100	13.4	3.1
English	16,793	28.0	1.9
Other Languages	11,735	32.6	2.9
Other Humanities	15,511	18.6	3.6

Unemployment Rates of Ph.D's in Science, Engineering, and the Humanities, 1977

	Unemployment Rate (Percentage of Labor Force)	
Field of Doctorate	Male	Female
Physical Sciences	0.9%	5.1%
Social Sciences	1.0	4.0
Life Sciences	1.1	3.6
Math and Computer Sciences	0.9	3.0
Psychology	0.9	2.6
Engineering	0.6	3.0
History	1.7	10.4
English	2.1	6.2
Other Languages	2.6	4.5
Other Humanities	2.4	6.0

Note: Only those *seeking* employment are included in the calculation of unemployment rates.

. . . Garwin Sees "An Option for Skulduggery"

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repair by a member of PSAC, who testified against the SST before a Congressional committee without resigning his PSAC membership. While I believed him when he insisted that he had not drawn on any PSAC classified material in preparing his testimony and I respected his conclusions and his right to them, I still cannot defend this act but I can understand Nixon's resulting skeptical view of his science advisers."

Now, as is generally known, the scientist to whom Killian refers is Richard L. Garwin, of IBM, who is one of the sagest and most sought-after figures in science advising for the government. In Democratic and Republican administrations, when a difficult scientific or technical assessment has to be made — whether on weapons matters or the organization of a solar research center — senior government officials are keen to sign on Garwin.

How does Garwin respond to the charge that, in effect, he inspired the demolition of the most important link between science and government (since restored with the creation, in 1975, of the Office of Science and Technology Policy)?

He responds with a text of a talk that he gave in 1976 upon receiving the Leo Szilard Award of the American Physical Society Forum on Physics and Society. Titled "Scientists and Public Policy, Help or Hinderance?" the speech takes the position that the principal virtue of PSAC was that it provided the President with an opportunity to receive advice from experts unattached to any particular bureaucratic interest in Washington. Thus, as Garwin describes it, the role of PSAC was to work for the President. But, he states, "Presidents Johnson and Nixon allowed the bureaucracy increasingly to isolate the President's Science Advisory Committee, thus denying the President himself authority and information . . . Consistent with its other activities of self-isolation and cover-up, the Nixon White House in January 1973 abolished the PSAC and the allied OST, thereby wilfully or unwittingly denying the nation the continued activities of the dozens of members and hundreds of panelists over a 16-year period who worked to understand and propose policy options in defense matters such as missiles and aircraft, tanks and nuclear weapons, and in civil programs such as health care, coal mining, air transportation, the world food problem, and the like.

"I believe that the abolition of the President's Advisory Committee is presumptive evidence of incompetence if not the desire to preserve an option for skulduggery."

Research Cutbacks Evoke Dire Warning in Great Britain

London. Britain's long and continuing diet of sparse budgets for academic research has evoked an especially strong plea from one of the nation's principal science-support organizations, the University Grants Committee (UGC).

In its latest annual report to the Secretary of State for Education and Science, the UGC warns that recent cutbacks will seriously impair the universities' ability to renew and modernize their scientific equipment and to carry out research sanctioned by the research councils.

The UGC, with the Advisory Board for the Research Councils (ABRC), decides on the allocation of research funds to Britain's universities. The UGC pays for the salaries of universities' tenured staffs as well as some equipment costs. The research councils pay for the additional costs of carrying out particular research projects, including specialized equipment and the salaries of research students. The ABRC has already voiced its warning that falling funds are damaging Britain's research capability (SGR, Vol. VIII, No. 3).

Over the five-year period 1971/72 to 1976/77 the funds the UGC had to dispose of fell by 6.9 per cent in real terms. This decline was significantly higher than the anticipated reduction of only 1.2 per cent. The decline in funds will continue for at least three more years if the government sticks to its proposed level of spending.

The UGC warns: "Unless remedial action is taken the decline of our universities from their former position amongst the leaders of the world of research and scholarship will not only accelerate but probably become irreversible without wholly disproportionate expenditure at a later date."

Even when the research councils want to fund research "of major national importance" the universities cannot always afford to take up the research councils' money — they do not have the money to meet their side of the costs. The UGC recently allocated £500,000 to help out universities in this position by providing support for such fields as veterinary research, dental research, toxicology, X-ray crystallography, polymer engineering, total technology, marine technology, and interactive computing. The UGC says that it will not be able to afford a similar rescue operation in the foreseeable future.

Mrs. Mink Quits State Dept. Science Post

The chief science job at the State Department is vacant again following the abrupt and unexplained resignation last month of Patsy Mink, assistant secretary for Oceans and International Environmental and Scientific Affairs. She was the seventh person to hold the job, on a fulltime or acting basis, since 1974.

Mrs. Mink, former Congresswoman from Hawaii, called her staff together on Friday, April 28, said she was leaving, and was gone the following Monday. Her departure, it must be said, has evoked no mourning. since she came to the job with no relevant qualifications, and, according to staff members, never displayed much interest in the post. Defeated in an unsuccessful bid in 1976 for the Democratic nomination for the Senate in her home state, Mrs. Mink, a lawyer by training, was held in high esteem by the incoming Carter Administration, and was destined for a plum job. But no one is at all certain why she was chosen for that particular spot in the State Department. OES, as the Bureau is called, was created by Act of Congress in an effort — mainly led by Senator Pell (D-RI) — to get the Department to pay closer attention to scientific and technological matters that affect foreign policy. But in prior incarnations and under OES, the function has never taken hold in the tradition-bound State Department. The volatile Dixy Ray Lee held the post for a brief time, under Henry Kissinger, and then stormed out, bitterly complaining that work that belonged to her bureau was being preempted by other parts of the Department; furthermore, she said, Kissinger refused to listen to her.

With Mrs. Mink gone, Robert C. Brewster moves up as acting director.

In addition to the vacancy created by Mrs. Mink's departure, there are others. Lindsey Grant, the deputy assistant secretary for environment and population, left in March, and has not been replaced. And Oswald Ganley, another deputy assistant secretary, will soon leave for a teaching and research assignment at the Kennedy School, at Harvard.

The basic question, and it's been around for a long time, is whether the State Department has any serious regard for a high-level science operation within its bureaucracy. The function was originally taken on 20 years ago in a fairly grudging manner, mainly at the suggestion of senior scientists on whom the Department had to depend for counsel on nuclear matters. But the science office never took root in Department affairs; it actually died out for a time. And Pell's attempt to invigorate it through the statute that created OES is obviously no solution.

With the directorship once again vacant, this is a good time to decide whether the State Department wants a science shop at the relatively rarified assistant secretary level, or whether the research-related tasks that it encounters could be more effectively handled with specialized appointments in other bureaus.

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